

[54] **DISPOSABLE HOSPITAL PATIENTS GOWN WITH COHESIVE-ADHESIVE APPLIED SO THE AREAS OF APPLICATION HAVE SPACE THEREIN FREE OF COHESIVE-ADHESIVE**

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[21] Appl. No.: **107,289**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 828,407, March 12, 1969, which is a continuation-in-part of Ser. No. 534,903, March 16, 1966, Pat. No. 3,451,062, which is a continuation-in-part of Ser. No. 584,322, Sept. 27, 1966, Pat. No. 3,399,406.

[52] U.S. Cl. 2/114

[51] Int. Cl. A41b 9/00

[58] Field of Search 2/83, 114; 260/740; 161/146, 148; 117/44

References Cited

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3,574,864 4/1971 Bradley 2/114

1,489,046	4/1924	Thompson	2/114
2,329,055	9/1943	Kegan	260/740 X
2,515,423	7/1950	Ptasnik	161/146 X
2,523,860	9/1950	Budden	117/44 X
2,792,326	5/1957	Doyle et al.	161/148 X
3,156,927	11/1964	Grimm et al.	2/114
3,276,036	10/1966	Cater	2/114
3,343,537	9/1967	Graham	2/114
3,399,406	9/1968	Bradley	2/114
3,451,062	6/1969	Bradley	2/114

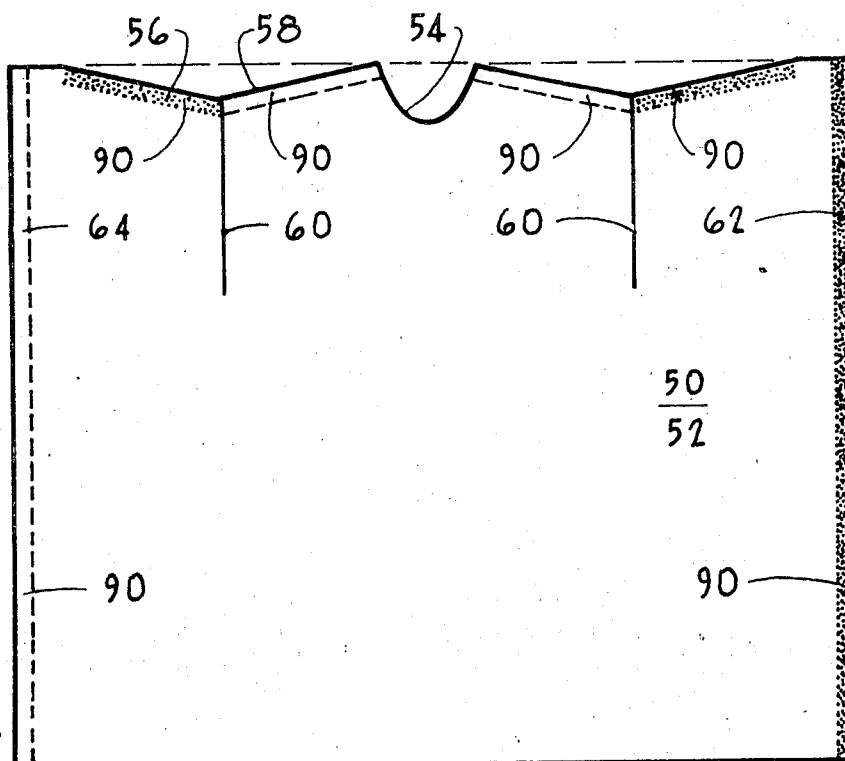
Primary Examiner—Patrick D. Lawson

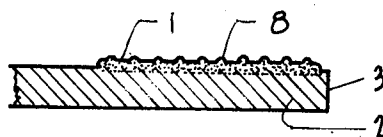
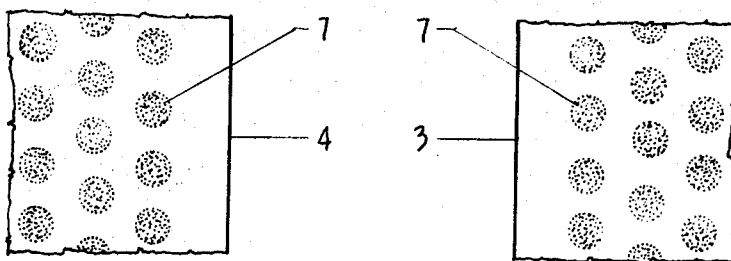
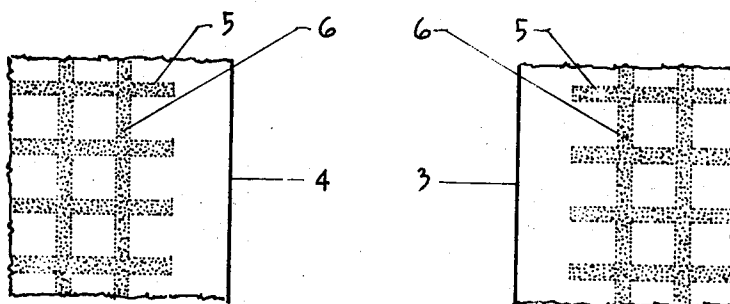
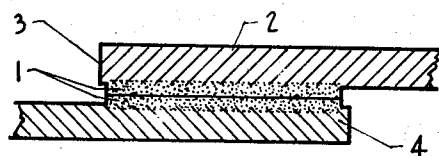
[57]

ABSTRACT

A disposable hospital patient's gown made from a sheet of disposable material with a medial neck opening, and arm openings with a cohesive-adhesive applied to confronting surfaces of the sheet at the top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, and applied along the confronting surface areas of the side edges so the areas of application have spaces therein without cohesive-adhesive as a means for attaching, separating and reattaching the top edge of the sheet and the sides of the sheet about the patient's body.

25 Claims, 18 Drawing Figures





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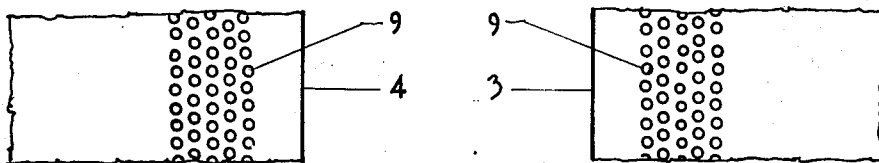


FIG. 5

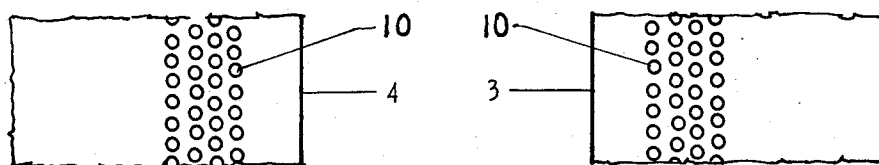


FIG. 6

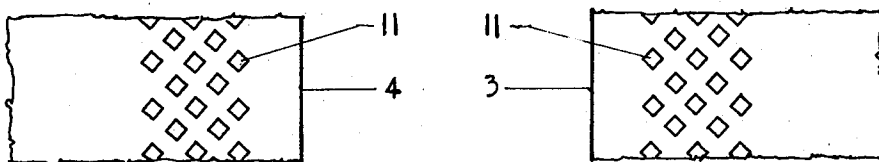


FIG. 7

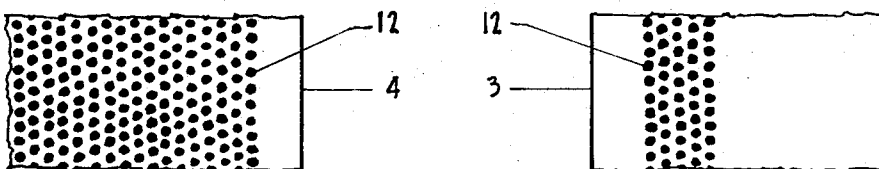


FIG. 8

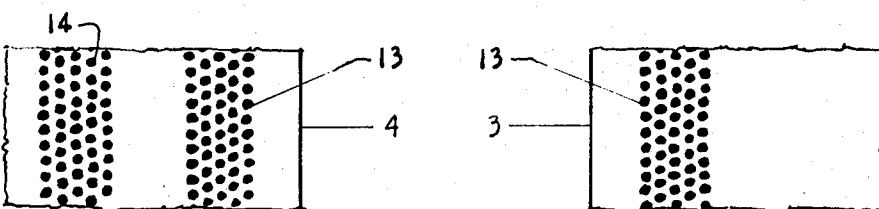


FIG. 9

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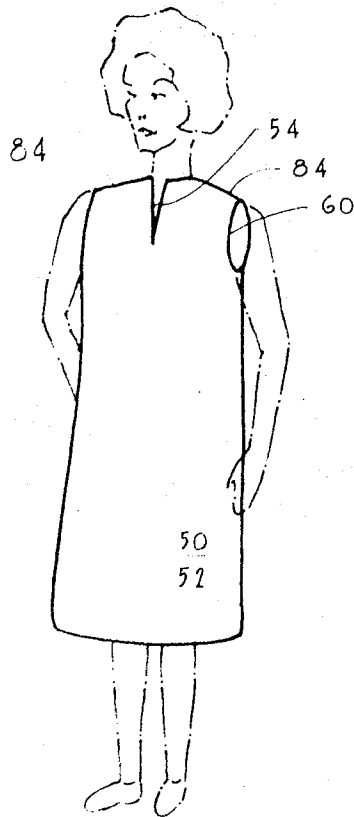


FIG. 10

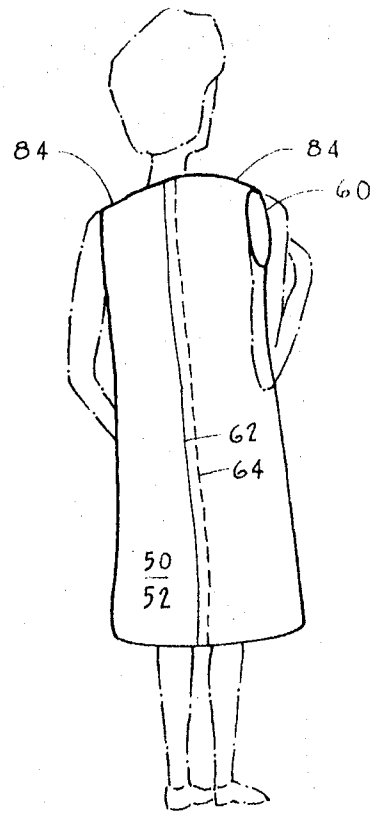


FIG. 11

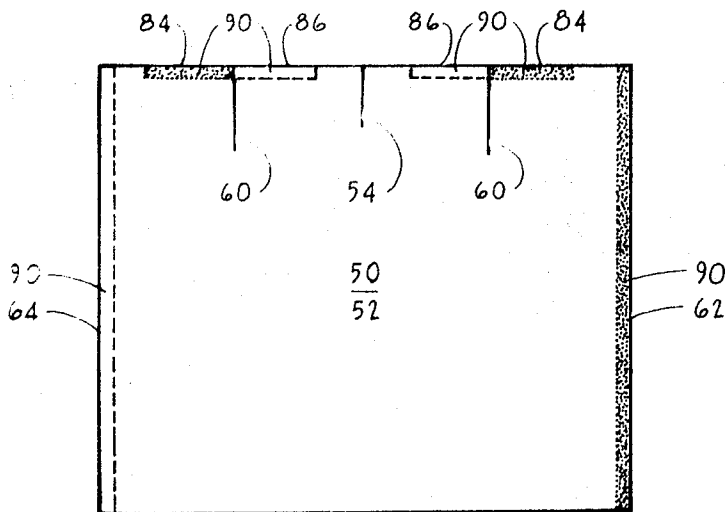


FIG. 12

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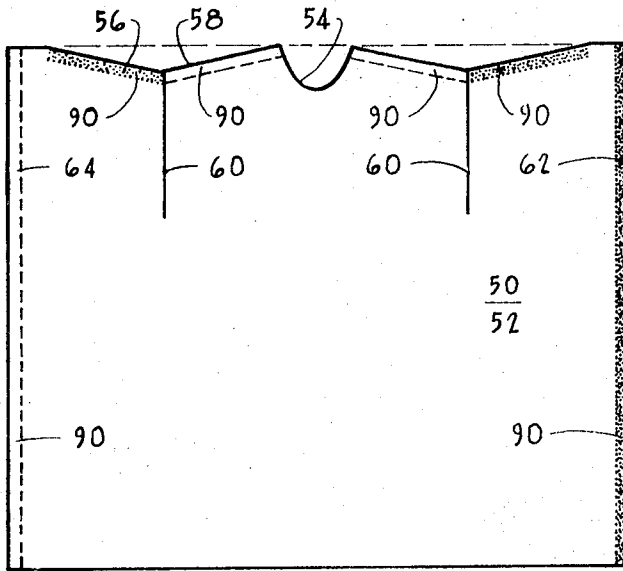


FIG. 13

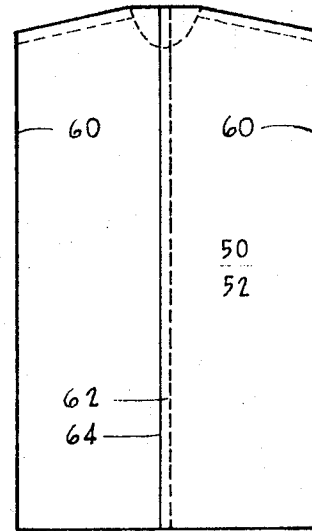


FIG. 14

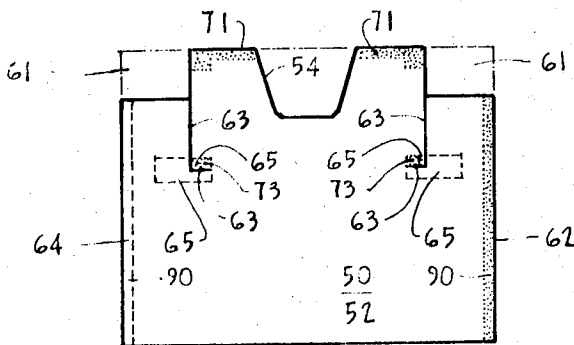


FIG. 15

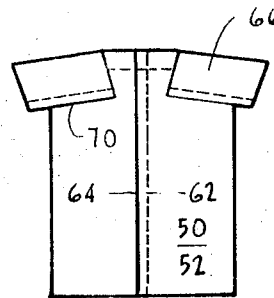


FIG. 16

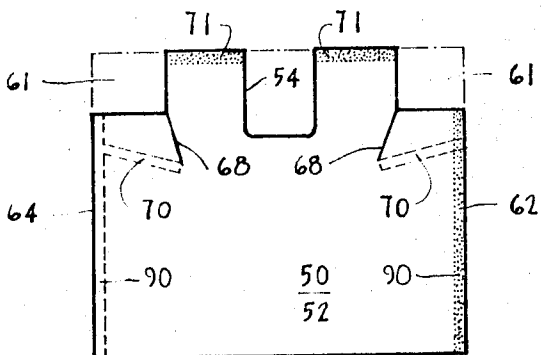


FIG. 17

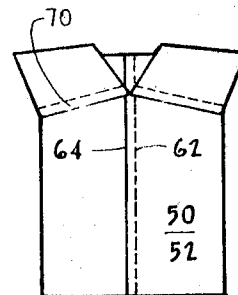


FIG. 18

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DISPOSABLE HOSPITAL PATIENTS GOWN WITH COHESIVE-ADHESIVE APPLIED SO THE AREAS OF APPLICATION HAVE SPACE THEREIN FREE OF COHESIVE-ADHESIVE

CROSS-REFERENCES TO RELATED APPLICATIONS

The present application is a continuation-in-part application to application Ser. No. 828,407 filed Mar. 12, 1969 not yet issued entitled: "Disposable Hospital Patient's Gown with Cohesive-Adhesive." A one piece disposable hospital patient's gown having neck and arm openings in its top edge and having cohesive-adhesive with high shear adhesive-adherence and low peel adhesive adherence, as a first means for separating and re-attaching the top of the gown and adjacent the sides of the gown as a second means of separating and re-attaching the sides of the gown.

Continuation-in-part application Ser. No. 828,407 filed Mar. 12, 1969 not yet issued is a continuation-in-part application of application Ser. No. 534,903 filed Mar. 16, 1966 which issued June 24, 1969 as U.S. Pat. No. 3,451,062 entitled: Disposable Examination Gown: A one piece Hospital Examination Gown having Neck and Arm openings in its top edge, and opening and closing at the shoulders lateral to the neck opening, and opening and closing at the back or the front.

Disposable Office Gown, application Ser. No. 584,322 filed Sept. 27, 1966 issued Sept. 3, 1968, as U.S. Pat. No. 3,399,406 entitled: A two-piece Disposable Gown having overlapping front and rear panels that also open and close at the shoulders. This was a continuation-in-part application of application Ser. No. 534,903 filed Mar. 16, 1966 which issued June 24, 1969 as U.S. Pat. No. 3,451,062 entitled Disposable Examination Gown: A one Piece Hospital Examination Gown having neck and arm openings in its top edge, and opening and closing at the shoulders lateral to the neck opening and opening and closing at the back or the front.

BACKGROUND OF THE INVENTION

The Invention

The invention is a disposable hospital patient's gown that a patient can sleep in without having the gown tear to pieces.

The gown is made from a single sheet of disposable material, it has a medial neck opening and arm openings intermediate the medial neck opening and the side edges at the top of the sheet.

The gown opens at the back or front and also opens at the shoulders lateral to the neck opening.

The accepted definition of a cohesive-adhesive is an adhesive that when dry will generally only adhere to itself. A cohesive-adhesive is applied to confronting surfaces of the sheet along the side edges, so they adhere together when the side edges are folded inwardly to engage each other; and applied to confronting surfaces of the sheet along the top edge intermediate the neck opening and the arm openings and intermediate the arm openings and the side edges so the edges at the top of the gown can be sealed around the shoulders lateral to the neck openings.

The confronting surfaces at the edges of the gown have cohesive-adhesive applied so that spaces therein of these areas are not applied with cohesive-adhesive.

Having the cohesive-adhesive applied to the selected confronting surfaces so that these areas have spaces at their surfaces without cohesive-adhesive will allow the gown to be opened more readily than if the cohesive-adhesive were an unbroken strip, and since heat, pressure and time will frequently fuse areas of contact between the layers of cohesive-adhesive on the two confronting surfaces, then even if some of the areas of contact on the confronting surfaces have become fused together are torn off when the confronting surfaces are peeled apart, other areas of cohesive-adhesive that have not come in contact with each other will be unused and will be available to permit the confronting surface to readhere a second or more times.

The cohesive-adhesive used may contain latex or it may be a hot melt adhesive containing a ferro-magnetic substance. After the hot melt adhesive with the ferro-magnetic substance has been applied to the confronting surfaces, and allowed to dry, and these areas are placed in a magnetic field, the adhesive will become a cohesive-adhesive and will in general bond only to itself.

The application of hot melt adhesive may be applied so that the areas of application have spaces therein without cohesive-adhesive. This gives the cohesive-adhesive the property of high shear adhesive adherence, by preventing the two confronting cohesive-adhesive surfaces from sliding apart, thereby increasing the high shear adhesive adherence. If the hot melt adhesive containing a ferromagnetic substance is applied so that the areas of application have spaces therein without hot melt adhesive containing a ferromagnetic substance, for example, in dots; then when the magnetic dots on the confronting surfaces tend to slide apart, the magnetic dots on the confronting surfaces will tend to adhere at their sides; thereby creating high shear adhesive adherence.

Description of the Prior Set

The gown described by H.F.T. Thompson U.S. Pat. No. 1,489,046 consists of a "Plurality of Sections" (From 3 to 11 Sections) attached by snaps along the edges of the sections, and there are no "Openings running downward from the top edge of any of the sections or panels."

The applicant's patent application contains a limitation of the length of the arm openings extending downwardly from the top edge of the sheet, Part of the way toward the bottom of the sheet.

The Thompson gown is fastened by "Buttons, hooks and eyes, or preferably snap-fasteners" at the sides of the gown below the arm openings. If the Thompson gown was made of disposable material and the sides of the gown below the arm openings was fastened by "Buttons, hooks and eyes, or preferably snap fasteners," these methods concentrate the stress at those points and they would just tear out of the gown when the patient rolled over in bed.

Even if the Thompson gown were made of disposable material and the panels of disposable material were attached by cohesive-adhesive with high shear adhesive adherence and low peel adhesive adherence as described by the applicant and if the manufacturer assembled these panels described by Thompson and then the assembled gown is given to the patient, you still do not have the same gown as that described by the applicant, because if you take three panels of disposable material and apply a cohesive-adhesive with high shear, low peel adhesive adherence to the edges and then attach them

as suggested by Thompson and then wear it in bed overnight, when you wake in the morning, the gown has opened spontaneously down its sides during the night, because the arms are located at the sides above the seams, and the stress is concentrated in these seams at the sides of the gown, by the arms, when you roll over in bed and this stress causes these seams at the sides to open.

However, there is no problem in the gown described by the applicant, because the closure is only in the back or in the front of the gown where the stress is least.

The gown described by the applicant is manufactured without assembling it. It is folded so that its cohesive-adhesive areas do not come into contact until the gown is worn. Eliminating the costs of assembling the gown make this gown inexpensive enough for it to be disposable.

The complexity of the Thompson gown makes it impractical.

It would be somewhat difficult to understand if one were to hand 3 or more panels of material to a patient and tell them to attach the medial edge of the left panel to the left lateral edge of the center panel and the medial edge of the right panel to the right lateral edge of the center panel, but leave the upper quarter of the medial edge of the left panel unattached to the upper quarter of the left lateral edge of the center panel and leave the upper quarter of the medial edge of the right panel unattached to the upper quarter of the lateral edge of the center panel and then place the gown on by closing the upper edge of the left panel to the upper left hand edge of the center panel and the upper edge of the right panel to the upper right hand edge of the center panel and then attach the lateral edge of the right panel to the lateral edge of the left panel.

The gown described by the applicant is as simple as A — B — C and it is obvious to the patient how to put on this gown.

A. I. Kegan U.S. Pat. No. 2,329,055 describes a cohesive-adhesive on an envelope. There is nothing in his patent to suggest that this might be used on a disposable hospital patient's gown that a patient can sleep in and nothing to suggest that it would work on a disposable hospital patient's gown that a patient can sleep in.

The gown designed by S. L. Cater U.S. Pat. No. 3,276,036 does not describe a disposable hospital patient's gown that a patient can sleep in, even though it does mention that the gown may be made of plastic. The fact that it may be made of plastic does not make it disposable.

Any gown may be made of disposable materials but that does not make it disposable, if the design of the gown is complicated and the cost of manufacture of the gown is too expensive.

The gown described by Cater consists of a panel of "A size to form both the front and back panels and encircle the wearer" and two other panels which are stitched to the top edge of the panel to form the shoulders. The top panels are stitched to the body panel on one edge and detachably connected to the body panel at the other edge.

However, the gown is so complicated to construct that even if it were manufactured out of plastic or other disposable material it would be too expensive to be disposable.

The gown designed by Cater opens only at one side. If the gown were opened and placed on the front of an

unconscious patient lying on the operating table after an operation, there would be a large flap (one-half the width of the gown) which forms the back of the gown that would hang down on one side until you rolled the patient over on their side and pushed the flap beneath them. However, it is usually unwise to roll the unconscious patient on their side.

The gown designed by the applicant may be applied to the front of the patient like a drape sheet. The top of the sheet wraps around the shoulders of the patient and closes at the top of the shoulders. The back of the gown may be left unclosed until the patient awakes.

The seams formed by the attachment of the shoulders of a gown are strong enough when the gown is constructed of cloth — but because of the low internal strength of disposable materials, the seams formed by the attachment of the shoulders to the body of the gown would tear apart when the patient rolls over while sleeping if the gown were made of disposable materials.

The gown described by Cater closes at the shoulders by means of snap fasteners, ties, or velcro. The snap fasteners and ties are too expensive to use in a gown if the gown is to be manufactured cheaply enough to dispose of. Furthermore, the snaps and ties concentrate the stress at a small area of the gown and since the disposable material does not have much internal strength, the snaps or hooks merely pull out of the gown and cannot withstand the stress and strains of a patient sleeping in the gown.

If the Velcro were fastened to the Cater gown or the Thompson gown made of disposable material, the cost of manufacturing and attaching the complicated panels in the Cater gown and the Thompson gown not to mention the cost of attaching the strip of Velcro to the gown, together with the cost of the Velcro would make the cost of the disposable gown prohibitive.

Snaps or hooks cannot be used to close the free edges of a disposable hospital patients gown because:

1. They are too uncomfortable to sleep on.
2. They concentrate too much stress at a small area of the gown and since the disposable material does not have much internal strength, the snaps or hooks merely pull out of the gown, and cannot withstand the stresses and straining of a patient sleeping in the gown.

However, by closing the free edge of the disposable hospital patient's gown by means of a cohesive-adhesive with high shear adhesive adherence, low peel adhesive adherence, the stresses are diffused over the entire gown and the gown described by the applicant remains intact when it is slept in. There are no free edges at the back or front of the gown to become twisted and bunched up under the patient and tear the gown apart.

The gown described by L. E. Sabee U.S. Pat. No. 3,230,546 is not useable as a disposable hospital patient's gown that a patient can sleep in because the sleeve is permanently closed at the top and would not permit the gown to be removed over intravenous fluids in the patient's arm or casts on the patient's arm. The ties at the back of the gown are uncomfortable to lie on. The ties at the back of this gown would not withstand the stresses and strains of a patient sleeping in bed.

Gowns that are held together by ties expose the patient when the patient bends over. This gown would be expensive to manufacture because the ties at the back of the gown are recommended in the description as

being double thickness, so this gown is not made of a single sheet of paper. It requires extra pieces of paper to be glued on to the gown and then be cut. It would be more practical to just glue on the ties. It is not intended to seal, open and reseal by any cohesive-adhesive. It is permanently glued along its sides and in its final form it is merely a paper copy of the conventional hospital patient's gown that is made of cloth.

At least, the conventional hospital patient's gown made of cloth remains intact when the patient rolls over in bed, even though the ties bind the patient across the chest. However, ties made of disposable material would merely tear off the gown at the point where the double thickness ties joins the single thickness body of the gown.

The patent issued to J. F. Graham U.S. Pat. No. 3,343,537 describes a burn dressing of several layers (nine to twenty) of different materials attached by "Fastening means such as tapes or ties" lines 49 - 50 column 2 page 1, or by "adhesive tabs" lines 46 - 47 column 3 page 2, or by "Snaps, hooks, tieable non-adhesive tapes" Lines 28 - 29 column 4 page 2.

"Adhesive tabs" merely concentrate the stresses at these points and since the disposable materials used in a disposable hospital patient's gown have a low internal strength, the adhesive tab will merely tear off the outer layer of the disposable material and will not allow the adhesive tab to reseal the gown a second time.

The Graham Patent does not describe a one piece disposable hospital patient's gown that seals, opens and reseals along its confronting side edges and top edges by means of a cohesive-adhesive with high shear adhesive adherence and low peel adhesive adherence.

J. J. Grimm U.S. Pat. No. 3,156,927 describes adhesive tape or similar fasteners to close his gown (col. 2 line 24). This is not a resealable adhesive means of closing the gown. Because of the soft texture required for a disposable hospital patient's gown suitable for a patient to sleep in, the disposable material has a low internal strength. As soon as the adhesive tape were applied to the gown, the adhesive tape would just peel off the outer layer of the paper gown if any attempt were made to peel the adhesive tape off the gown in order to open the gown, and the adhesive tape could not be used to reseal the gown because it would have paper attached to its surface.

Adhesive tape is not a resealable adhesive when applied to a disposable hospital patient's gown.

When ties are used on a hospital patient's gown made of cloth that the patient sleeps in, the ties make the gown bind the patient across the chest. However, when ties are used on a hospital patient's gown made of disposable materials, the ties either tear off the gown or the gown tears across the chest opposite to where the ties are attached.

The disposable hospital patient's gown described by the applicant is attached along its free edge and the stress of a patient sleeping in it is diffused over the entire gown.

The gown described by Grimm does not describe an effective means of sealing, opening and resealing a disposable hospital patient's gown that may be used by the patient to sleep in.

K. J. Ptasnik U.S. Pat. No. 2,515,423 describes a method of applying adhesive (not cohesive-adhesive) in dots to one side of cellulose (scotch) tape so the

scotch tape may be unrolled and not be permanently stuck together in a roll.

There is no suggestion of applying cohesive-adhesive to both surfaces of the tape or that adhesive areas may be permanently fused and that some of these areas may be torn off and remain behind. In fact, that is the opposite of what Ptasnik is seeking in his method.

Adhesive tape is not cohesive-adhesive. It will adhere to any surface. The properties of adhesive tape could not be used in a disposable gown because the adhesive surface would then adhere to everything else it came in contact with.

The adhesive method described by Doyle U.S. Pat. No. 2,792,326 is not a method of sealing, opening, and resealing any product. It describes an adhesive that is used to adhere two plies of a wall of a paper bag together by using an adhesive (not a cohesive-adhesive) that remains constantly "tacky" so that if the two surfaces are accidentally pulled apart the adhesive will cause the two surfaces to readhere. Doyle states lines 18 to 19 Page 1, that the adhesive should "be nonpenetrating so as to form a surface adhesion." He also states (Line 65 Page 1) "When the plies are brought together only sufficient pressure should be applied to cause adherence without penetration of the plies."

This method could certainly not be used to open and reclose confronting surfaces at selected edges of a disposable gown since the amount of pressure forcing the two plies together cannot be controlled and since the adhesive must partly penetrate the soft disposable material to increase its "internal strength" to keep the adhesive from peeling off the outer layer of the disposable material. Furthermore, since the adhesive described by Doyle is constantly tacky it could not be used in a disposable product as a method of allowing the product to close, open and reseal since it would stick to everything it touches — other products, skin and to other areas of the product itself.

There is nothing to suggest that adhesive areas in the bag described by Doyle may become fused by time, pressure and heat and then if these adhesive areas are torn off, other adhesive areas that have not come in contact permit the surfaces of the bag to become adherent again. On the contrary, the adhesive used to cause the two layers of the bag described by Doyle to adhere together are described on lines 15 to 17 Page 1, as "The compound should be such as to retain its tackiness between the plies through low and high temperatures in the range - 20°F and 250°F." Every adhesive area in this method adheres. It is only able to readhere because it remains constantly tacky.

This adhesive is specifically not a cohesive-adhesive, since cohesive-adhesives are not tacky but adhere only to themselves.

Edgar L. Budden, U.S. Pat. No. 2,523,860 describes the application of adhesive (and specifically not cohesive-adhesive) in an intermittent pattern for purposes of economy and to make the adhesive seal adhere better.

The patent described by Budden does not suggest applying cohesive-adhesive in the form of dots on opposing surfaces to enable the adhesive area to be resealed when the paper surfaces are separated at their interfaces and adhesive dots that have permanently sealed are torn off. In fact the opposite effect is sought. The adhesive is applied to only one surface to increase the binding power of the adhesive.

It is a new concept to apply cohesive-adhesive to the confronting surfaces at selected edges so the areas of application have spaces therein without cohesive-adhesive, thereby enabling the confronting surfaces to be adhered, peel apart, and then readhere, even if some of the areas containing cohesive-adhesive are torn off when the confronting surfaces are peeled apart.

SUMMARY OF THE INVENTION

During an operation intravenous fluids are frequently running into one of the patient's arms and if the gown has any sleeves, it is difficult to place the gown on the patient without interrupting the intravenous fluids and possibly contaminating the intravenous set-up. Similarly, bandages or casts on the patient's arm prevent placement of the gown or removal of the arm from the sleeve. Applicant's gown is applied to the front of the patient's trunk and is then wrapped around the patient's trunk and around the patient's arms. The confronting surfaces of the edges of the shoulders of the gown adhere together and the confronting surfaces of the side edges of the gown adhere together, enabling securement of the gown longitudinally at the front or rear of the patient. Placing the gown on the patient or removing the gown from the patient is not obstructed by bandages, casts, or intravenous fluids.

The prior art requires that the unconscious patient sit up in order to place the gown over the patient's head, or the gown is required to be stepped in. It is virtually impossible to pull an examination gown over the lower extremities and over the lower trunk while a patient is unconscious. The present gown may be placed on the front of the patient's trunk as a drape to cover the unconscious patient's chest and abdomen.

The shoulders may be covered by pushing the top part of the flaps that cover the patient's back behind the patient where their confronting surfaces at the edges will adhere at the top to form a sleeve without sitting the patient up. Even if the patient is unconscious it is possible to push the flaps that cover the patient's back, behind the patient where their confronting surfaces at their edges will adhere, without rolling the patient on their side or sitting the patient up, in order to fasten the back of the gown.

The gown described by the applicant is the first disposable gown a patient can sleep in and is the first disposable gown that eliminates the expensive manufacturing process of assembling it into a gown.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an enlarged fragmentary cross section of confronting surfaces of the gown at edges 3 and 4 of disposable materials 2 as secured to each other by cohesive-adhesive 1;

FIG. 2 is a fragmentary plan of confronting surfaces of the gown at edges 3 and 4 of disposable materials as applied with cohesive-adhesive in gridiron pattern 5 and 6;

FIG. 3 is a fragmentary plan of confronting surfaces of the gown at edges 3 and 4 of the disposable materials as applied with cohesive-adhesive in dot pattern 7;

FIG. 4 is an enlarged fragmentary cross section of confronting surfaces of the gown at edges 3 of disposable materials 2 showing the partial penetration of the cohesive-adhesive within the confronting surface of the disposable material 1, the confronting surface being treated with talc particles 8 to nullify the bonding

power of the cohesive-adhesive sufficiently to weaken the bond so that it may be peeled apart.

FIG. 5 is a fragmentary plan of confronting surfaces of the gown at edges 3 and 4 of disposable materials as applied with cohesive-adhesive in a pattern of small circles 9;

FIG. 6 is a fragmentary plan of confronting surfaces of the gown at edges 3 and 4 of disposable materials as applied with cohesive-adhesive in a pattern of larger circles 10;

FIG. 7 is a fragmentary plan of confronting surfaces of the gown at edges 3 and 4 of disposable materials as applied with cohesive-adhesive in a pattern of diamonds 11;

FIG. 8 is a fragmentary plan of confronting surfaces of the gown at edges 3 and 4 of disposable materials as applied to one confronting surface over a broader area 12 than is required for attachment to the cohesive-adhesive on the other confronting surface 12;

FIG. 9 is a fragmentary plan of confronting surfaces of the gown at edges 3 and 4 of disposable materials as applied to one confronting surface on more than one area 13 and 13 to allow a choice of area of attachment to the cohesive-adhesive on the other confronting surface 13 and thereby permit a variation of sizes and adjustments.

FIG. 10 is a perspective view of the disposable hospital patient's gown as worn;

FIG. 11 is a rear perspective;

FIG. 12 is a top plan in disassembled position and prior to placing upon a patient;

FIG. 13 is a plan view of first embodiment of hospital disposable gown illustrating configuration of single sheet aperture;

FIG. 14 is a back view of assembled first embodiment of hospital disposable gown;

FIG. 15 is a plan view of second embodiment of hospital disposable gown illustrating configuration of single sheet;

FIG. 16 is back view of assembled second embodiment of hospital disposable gown;

FIG. 17 is a plan view of third embodiment of hospital disposable gown illustrating configuration of single sheet.

FIG. 18 is back view of assembled third embodiment of hospital disposable gown;

DESCRIPTION OF THE PREFERRED EMBODIMENTS

In FIGS. 10-12, a disposable hospital patient's gown 50 is illustrated as comprised of a sheet of disposable material having side edges 62 and 64, to which cohesive-adhesive 90 has been applied, neck opening 54 and arm openings 60 extending downward from top edge 84 to which cohesive-adhesive 90 also has been applied. When the gown is worn, side edges 62 and 64 may be applied to each other as a longitudinal securement at the front or at the back of the wearer, as illustrated in FIG. 11. Similarly, top edge 84 outer segments are folded over and secured to the under segments 86 by means of cohesive-adhesive so as to support the garment upon the shoulders of the wearer, while the wearer's head protrudes through neck opening 54 and the arms protrude laterally through arm openings 60. The hospital disposable gown, as seen in FIGS. 13-18, is generally designated by reference numeral 50 and consists of a sheet of paper 52 or other disposable material

cut or slit to predetermined pattern to provide neck opening, sleeves and the like, as desired. As seen in the embodiment of FIGS. 13 and 14, single sheet 52 is provided with neck opening 54, surrounded by tapered cutout portions 56 and 58 intersecting at cuts 60. Also segments 56 and 58 and free edges 62 and 64 are provided with the below-described cohesive-adhesive fastening technique. Although the folding and fastening technique is apparent, FIG. 14 illustrates back of assembled gown in which openings 60 now provide openings for arms. Alternatively, as seen in FIG. 15, single sheet 52 may be provided with sections 61 cutout L-shape slits 63 and fastening technique applied along surfaces 65. In this manner, the assembled gown is provided with sleeves 66 as seen in the back view of FIG. 16.

FIGS. 15 and 16 illustrate a disposable Hospital Patient's Gown, comprising: A sheet of disposable material forming said gown having side edges, a bottom edge, and a top edge, said top edge of gown containing: 1) A medial neck opening; and 2) Two arm openings, each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, and is then angled medially part of the way towards the midline of the sheet; cohesive-adhesive is applied to the confronting surface of the disposable material adjoining the upper edge of the medial portion of the arm openings; The application of cohesive-adhesive is also applied to the confronting surface from the medial end of the medial portion of the arm openings on the upper and lower edges of the medial portion of the arm opening and is continued laterally towards the lateral edge of the sheet but on the surface of the reverse side of the sheet to the first said medial application of cohesive-adhesive; Cohesive-adhesive is also applied to the confronting surface of the disposable material along the upper edge of the gown (between the arm openings and the neck opening) and cohesive-adhesive is applied on the same surface side of the sheet as the application of cohesive-adhesive above that portion of the arm openings that extend medially towards the midline of the gown; the portion of disposable material above the lateral application of cohesive-adhesive and lateral to the downward portion of the arm openings, is excised; when the outermost side edges of said sheet are folded inwardly to engage each other, and the flap that has been created lateral to the neck opening is folded downward and the cohesive-adhesive adjacent to the upper edge of the sheet (between the arm openings and the neck opening) is sealed to the cohesive-adhesive that is adjacent to the upper edge of the medial portion of the arm openings (that extends towards the midline of the gown) and to the cohesive-adhesive that extends lateral from the medial end of the said medial portion of the arm openings toward the lateral edge on the reverse side of the sheet, sleeves are created that cover the shoulders and part of the upper arms, and extend lateral to the body of the gown.

Although the gown described above is most effective if the cohesive-adhesive is applied to all the confronting surfaces described above, this is given as an example and does not imply that this gown can not be constructed with the cohesive-adhesive applied to less than the above described number of confronting surfaces.

As illustrated in FIG. 17, diagonal cuts 68 may be made in sheet 52 with fastening technique located along diagonal lines 70, and on the surfaces 71 as seen in the rear view of FIG. 18, a flap is thus provided in this version of disposable gown 50.

FIGS. 17 and 18 illustrate A Disposable Hospital Patient's Gown, comprising: A sheet of disposable material having side edges, a bottom edge, and a top edge containing:

1. A medial neck opening, extending downwardly from said top edge part of the way toward the bottom of the sheet; and

2. Two arm openings each respectively, intermediate said side edges and said neck opening and each extending downward and medially from the top edge of said sheet, and each is angled downward and medially part of the way toward the bottom and midline of the sheet; Cohesive-adhesive is applied to the confronting surface of the disposable material along the upper edge of the gown (between the downward arm openings and the downward neck opening). Cohesive-adhesive is also applied on the reverse surface of the sheet (to the cohesive-adhesive on the confronting surface at the upper edge of the sheet between the arm openings and the neck opening) to the confronting surface of the disposable material at the upper edge of a line angled partly upward and laterally from the bottom end of the arm opening towards the side edge of the sheet. The portion of disposable material above the inferior-lateral application of cohesive-adhesive, and lateral to the downward arm opening, 18 excised; when the outermost side edges of said sheet are folded inwardly to engage each other, and the flap that has been created lateral to the neck opening is folded downward and the cohesive-adhesive adjacent to the upper edge of the sheet (between the arm opening and the neck opening) is sealed to the cohesive-adhesive on the reverse surface of the sheet that extends superiorly and laterally from the end of the downward arm opening, a sleeve is created that covers the shoulder and part of the upper arm.

The Neck Opening may consist of one of the following:

1. A medial cut-out at the top edge of the sheet, extending downward part of the way toward the bottom of the sheet. The cut-out may be curved, square, rectangular, V-shaped, or any regular or irregular shape.

2. A medial slit extending downward part of the way toward the bottom of the sheet.

3. The top edge of the sheet may be horizontal without having any slits or cutouts in the medial portion of the sheet, with neck opening located between the top edge of the medial portion of the front section of the sheet and the top edge of the medial portion of the posterior section of the sheet, after the outermost side edges of the sheet are folded inwardly to engage each other.

4. A combination of the above.

Arm Openings may consist of one of the following:

1. Cut-outs between the neck opening and the side edges extending downwardly part of the way toward the bottom of the sheet. The cut-outs may be curved, square, rectangular, V-shaped or any regular or irregular shape.

2. Slits between the neck opening and the side edges extending downward part of the way toward the bottom of the sheet.

3. A combination of the above. The arm openings may be slits with a circular cutout at the bottom of the slit to keep the bottom of the slit from tearing. A slit tends to tear at the bottom of slit because all the stress is concentrated at one point at the bottom of the slit.

The confronting surfaces adjacent to the edges may be the inside surface of one side that adheres to the inside surface of the other side; or the confronting surfaces may be overlapping surfaces, that is, the inside surface of one side that adheres to the outside surface of the other side. This applies whether the confronting surfaces are adjacent to the side edges of the gown when they are folded inwardly to engage each other, or whether the confronting surfaces are adjacent to the top edges of the gown, lateral to the neck opening, and medial to the side edges of the sheet.

The confronting surfaces of the gown at the left shoulder may be stamped with the letter "A."

The confronting surfaces of the gown at the right shoulder may be stamped with the letter "B."

The confronting surfaces of the back or the front of the gown may be stamped with the letter "C."

These letters will make it easier for the nurse or the patients to assemble the gown by sealing one confronting surface marked "A" to the other confronting surface marked "A," and one confronting surface marked "B" to the other confronting surface marked "B," and one confronting surface marked "C" to the other confronting surface marked "C."

The cohesive-adhesive is more effective if it is applied along the entire length of the confronting surfaces of the side edges of the gown and along the entire length of the confronting surfaces of the upper edge of the gown between the lateral border of the neck opening and the medial border of the arm openings and between the lateral border of the arm openings and the side edges of the gown, however, it should be clearly understood, that this is an example and does not imply that the length of the application of the cohesive-adhesive on the confronting surfaces is limited to the entire length of the confronting surfaces and is not to be construed as a limitation of the scope of the appended claims.

The gown is constructed of a single sheet of disposable material, however, this does not imply that the gown cannot be constructed of a single sheet of disposable material of more than one thickness stuck together.

Even though the gown is most effective if it is fastened at the shoulders with cohesive-adhesive on the confronting surfaces at portions of the top of the gown between the neck opening and the arm openings and between the arm openings and the sides of the gown, it should be clearly understood, however, this is an example and does not imply that the fastenings of the gown at the shoulders is limited to a cohesive-adhesive and is not to be construed as a limitation of the scope of the appended claims.

Free edges 56, 58, 62, 64, and surfaces 65, and 70, 71 and 73 of sheets 52 of the FIGS. 13-18 embodiments of hospital gown 50 may be secured by several techniques, some of which will now be described.

Cohesive-adhesive may be coated on each of the confronting areas 56, 58, 62, 64, 65, 70, 71 and 73 of sheets 52. Most liquid adhesives strike through the disposable materials leaving a layer of adhesive on the inside of the disposable gown that is sticky and unpleas-

ant for the patient to lie on. The cohesive-adhesive used may penetrate into the disposable material so there is no layer of cohesive-adhesive on the inside of the gown for the patient to lie on.

Disposable materials that a person wears close to their skin must be soft and absorbent. This type of disposable material has a low internal strength. If the cohesive-adhesive sits of the surface of the disposable material it will only make the surfaces of the disposable material adhere. When the disposable product is opened, the layers of cohesive-adhesive on the two confronting surfaces do not separate at the interface between the two layers of cohesive-adhesive but merely peel off the outer layer of the disposable material so the cohesive-adhesive will not adhere a second time.

The cohesive-adhesive used may penetrate into the disposable material and increase the internal strength of the disposable material in that area, so that when the disposable gown is opened, the gown separates at the interface between the two layers of cohesive-adhesive without peeling off the outer layer of the disposable gown.

However, even if the cohesive-adhesive penetrates into the disposable material and increases the internal strength of the disposable material, or if the disposable material used has a high internal strength; heat, pressure and time will frequently fuse areas of contact between the layers of cohesive-adhesive on the two confronting surfaces, and when the disposable product is opened, the areas of cohesive-adhesive on the confronting surfaces that have fused will prevent the disposable product from being opened at the interfaces of the cohesive-adhesive that has been applied at these areas. If the disposable material has a low internal strength and the cohesive-adhesive has penetrated into the disposable material, the areas of cohesive-adhesive that have become fused will merely tear out those portions of disposable material when the product is opened.

If the disposable material has a high internal strength, then the areas of cohesive-adhesive that fuse at their interface will tear off the disposable material at their surface of attachment to the disposable material.

These areas will be unable to readhere because there will no longer be cohesive-adhesive on both confronting surfaces.

However, if the cohesive-adhesive is applied so the areas of application have spaces therein without cohesive-adhesive; for example, if the cohesive-adhesive is applied in the form of dots, then even if some of the dots on the confronting surfaces that have become fused together are torn off when the confronting surfaces are peeled apart, other dots that have not come in contact with each other will be unused and will be available to permit the confronting surfaces to readhere a second time.

It should be clearly understood however, that the application of cohesive-adhesive in the form of dots to the confronting surfaces is an example and does not imply that the application of cohesive-adhesive is limited to dots and is not to be construed as a limitation of the scope of the appended claims.

The characteristic of low peel adhesive adherence in a cohesive-adhesive may also be achieved at the area of contact between the two confronting surfaces by applying cohesive-adhesive in an unbroken strip and then applying a non-adhesive substance such as talc powder

to the surface of the cohesive-adhesive to nullify the bonding power of the cohesive-adhesive at the area where the non-adhesive substance has been applied, so that areas of cohesive-adhesive on one confronting surface will come into contact with areas of cohesive-adhesive on the other confronting surface that have been nullified by non-adhesive substances so the confronting surfaces may be peeled apart and areas of cohesive-adhesive will be unused and will be available to allow the confronting surfaces to adhere again.

It should be clearly understood, however, that the application of talc powder to the cohesive-adhesive is given as an example and does not imply that the application of non-adhesive substances to the cohesive-adhesive is limited to talc powder and is not to be construed as a limitation of the scope of the appended claims.

In order to disclose the nature of a cohesive-adhesive with high shear adhesive adherence and low peel adhesive adherence, that penetrates into the disposable materials, an example is fully described below. It should be clearly understood, however, that this done as an example and is not to be construed as a limitation of the scope of the appended claims.

The following cohesive-adhesive may be varied in percentage and composition; other substances may be substituted for the tackifying resins, for the cellulose thickeners, for the defoamers, for the wetting agents, for the antioxidants and for the preservatives: and the percentage of the natural latex in aqueous solution with casein may be varied.

74.00% Natural Latex (62% solids)
3.00% Casein
4.00% Sodium Polyacrylate
0.80% sodium pentachlorophenate
0.40% Aqua Ammonia
1.00% 4, 6 Dinonyl-O-cresol
0.01% Toluene
0.01% Silicone Antifoam A (Dow Corning Co.)
16.78% Water

Even though a cohesive-adhesive is used that has properties of high shear adhesive adherence that enables the confronting surfaces to adhere together tightly, and properties of low peel adhesive adherence that enables the confronting surfaces to be peeled apart: however, heat, pressure, and time will sometimes make areas of this cohesive-adhesive fuse together permanently so that the confronting surfaces cannot be peeled apart at the interfaces between the two surfaces of cohesive-adhesive.

The liquid cohesive-adhesive is applied to the confronting surfaces at the edges of the gown so these areas of application have spaces therein without cohesive-adhesive: the application may be in a pattern: for example, dots, circles, diamond shapes, or grid or any other pattern; or at random: for example, dots, circles, diamond shapes or any other shape. The application may be in a discontinuous form: for example, dots or any shape not continuous; or in a continuous form: for example, a grid or lines, vertical and/or horizontal: or even in the form of a signature, or in the form of a scribble, so that after the cohesive-adhesive on the confronting surfaces has dried, when these confronting surfaces are pressed together, some of the limbs of cohesive-adhesive on one surface will come in contact with some of the limbs of cohesive-adhesive on the other surface and will adhere. The cohesive-adhesive used

may penetrate into the disposable material and increase the internal strength of the disposable material in the area of the cohesive-adhesive; or the cohesive-adhesive used may not penetrate into the disposable material.

If the cohesive-adhesive used does not penetrate into the disposable material, then when the edges of the gown are peeled apart to open the disposable gown, the limbs of cohesive-adhesive on one confronting surface will tear off the limbs of cohesive-adhesive that are in contact on the other confronting surface. However, even if those limbs of cohesive-adhesive in contact are torn off, other limbs of cohesive-adhesive not in contact will be unused and will still be available to allow the gown to be closed again.

If the cohesive-adhesive has properties of high shear adhesive adherence and low peel adhesive adherence, but does not penetrate into the disposable materials, the limbs of cohesive-adhesive on one confronting surface that are not in contact with limbs of cohesive-adhesive on the other confronting surface will be unused and will be available to allow the gown to be closed again, and some of the limbs of cohesive-adhesive on one confronting surface that are in contact with some of the limbs of cohesive-adhesive on the other confronting surface will peel apart and will also remain behind and be available to allow the confronting surface to adhere again because the cohesive-adhesive has high shear adhesive adherence and low peel adhesive adherence and the low peel adhesive-adherence allows some of the areas in contact to be peeled apart.

If the cohesive-adhesive that is used penetrates into the disposable materials and increases the internal strength of the disposable material in the area of the cohesive-adhesive, and also has properties of high shear adhesive adherence and low peel adhesive adherence, then the limbs of cohesive-adhesive on one confronting surface that are not in contact with limbs of cohesive-adhesive on the other confronting surface will be unused and will be available to allow the confronting surfaces to adhere again, but since the cohesive-adhesive penetrates into the disposable material and increases the internal strength of the disposable material in the area of the cohesive-adhesive, and since this cohesive-adhesive has the properties of high shear adhesive adherence and low peel adhesive adherence, the low peel adhesive adherence will enable most of the limbs of cohesive-adhesive on the confronting surfaces in contact with each other to be peeled apart and will allow these same limbs of cohesive-adhesive to adhere again, even if heat and pressure causes some of the cohesive-adhesive limbs in contact to become permanently fused so they are torn off when the two surfaces are peeled apart, however, many of the limbs of cohesive-adhesive in contact on the two confronting surfaces will not be fused together permanently and may be peeled apart. The cohesive-adhesive used may have high shear adhesive adherence and high peel adhesive adherence. If the cohesive-adhesive is applied so the areas of application have spaces therein free of cohesive-adhesive, then even if the cohesive-adhesive used has high shear adhesive adherence and high peel adhesive adherence, the method of application will create low peel adhesive adherence without reducing the high shear adhesive adherence.

It is possible, but highly unlikely, that even if the dots of cohesive-adhesive are applied in a regular pattern, to the confronting surfaces, and then allowed to dry, that all the cohesive-adhesive dots will come into contact when the confronting surfaces are sealed together at any one time.

If the cohesive-adhesive is applied to the confronting surfaces in dots 3 MM. in diameter and the dots are placed 3.1 MM. apart horizontally and 3.0 MM. apart vertically on one confronting surface and 3.0 MM. apart horizontally and 3.1 MM. apart vertically on the other confronting surface then it is impossible for all the dots on the two confronting surfaces to seal together at any one time, so there are always dots on the two confronting surfaces unused and available to reseal the confronting surfaces the next time.

It should be clearly understood, however, that this is an example and does not imply that the size of the dots are limited or that the spaces between them are limited and is not to be construed as a limitation of the scope of the appended claims.

Until the present time only adhesives based on natural latex were cohesive-adhesives with seal and reseal capabilities. Natural latex is a water-based system and hence, is not suitable for use as a hot melt adhesive. Hot melt adhesives are 100 percent solids, and are generally applied at temperatures in excess of 300°. Until the present time no hot melt adhesive existed with the properties of a cohesive-adhesive, that is, adhesives that when dry have the unique properties of bonding only to themselves; and in particular, the properties of a cohesive-adhesive with high shear adhesive adherence and low peel adhesive adherence, that enables the cohesive-adhesive when dry, to bond only to itself but also cause the confronting surfaces with cohesive-adherence to adhere together tightly but also enable the confronting surfaces with cohesive-adhesive to peel apart easily.

However, the following formulation describes a hot melt adhesive with the characteristics of a cohesive-adhesive: that is, adhesives that when dry have the unique properties of bonding only to themselves.

The alloy alnico in powdered form is added to a hot melt adhesive. The alloy alnico is made of aluminum, nickel, and cobalt steel.

In order to disclose the nature of a hot melt adhesive, an example is fully described below. It should be clearly understood, however, that this is done as an example and is not to be construed as a limitation of the scope of the appended claims.

The following hot melt adhesive may be varied in percentage and composition and other substances may be substituted.

EXAMPLE OF HOT MELT ADHESIVE

- 33% — Pentaerithritol Ester of Rosin
- 34% — High Melt Micro-Crystalline Wax
- 33% — Ethylene Vinyl Acetate

The hot melt adhesive is then applied to the disposable materials, allowed to dry and the area is placed in a magnetic field.

A hot melt cohesive-adhesive to which the alloy alnico has been added in powdered form and which is then applied to confronting surfaces at selected areas on a disposable gown and allowed to dry and these areas are then placed in a magnetic field thereby constituting a system that has a very broad hysteresis loop

and has a high retention of magnetism when the magnetizing field is removed.

It should be clearly understood, however, that the example described, that is, the addition of the alloy alnico in powdered form to a hot melt adhesive to create a hot melt cohesive-adhesive after the substance is applied to the disposable material, allowed to dry and then placed in a magnetic field to create the cohesive-adhesive properties, is done as an example and not to be construed as a limitation of the scope of the appended claims.

Any materials having the potential of magnetic properties may be added to the hot melt adhesive and then be applied to the confronting surfaces of disposable materials, allowed to dry, and then be placed in a magnetic field to create a hot melt cohesive-adhesive; although a hot melt adhesive containing the alloy alnico in powdered form has a broader hysteresis loop than most other substances and has a higher retention of magnetism when the magnetizing field is removed than most other substances.

The amount of ferromagnetic substance added to the hot melt adhesive will depend on the degree of cohesion desired, the area of contact between the cohesive-adhesive applied to the confronting surfaces and the width of the hysteresis loop characteristic of the ferromagnetic substance added.

If this hot melt cohesive-adhesive is applied so these areas of application have spaces therein without cohesive-adhesive, then this hot melt cohesive adhesive will have the properties of high shear adhesive adherence and low peel adhesive adherence, after it has been applied to confronting surfaces of disposable materials, allowed to dry and then placed in a magnetic field.

The application may be in a pattern: for example, dots, circles, diamond or grid, or any other pattern; or the application may be at random: for example, dots, circles, diamond shapes, or any other shape; or the application may be in a discontinuous form: for example, dots, or any shape not continuous; or in a continuous form: for example, a grid or lines vertical and/or horizontal or even in the form of a signature, or in the form of a scribble.

The manner of application of this hot melt cohesive-adhesive as described above will lower the low peel adhesive adherence and will increase the high shear adhesive adherence.

In general, hot melt adhesives have the properties of penetrating into the disposable materials to a greater degree than cohesive-adhesives based on natural latex. However, the examples of hot melt cohesive-adhesive that penetrates into the disposable materials and the example of a hot melt cohesive-adhesive that does not penetrate into the disposable material are given as examples and are not intended to be construed as a limitation of the scope of the appended claims.

It should be clearly understood that the example of a hot melt cohesive adhesive and a latex based cohesive-adhesive does not imply that the cohesive-adhesive is limited to latex based cohesive-adhesives or to hot melt cohesive-adhesives containing ferromagnetic substances and is not to be construed as a limitation of the scope of the appended claims.

Cohesive-adhesives with some or all of the characteristics described above, such as high shear adhesive adherence and high peel adhesive adherence or high shear adhesive adherence and low peel adhesive adher-

ence, that penetrate or do not penetrate into the disposable materials depending on the disposable materials used and depending on the cohesive adhesive used, may be applied so the areas of application have spaces therein without the cohesive-adhesive: the application may be in a pattern for example dots, circles, diamond shape, grid, or any other pattern: or the application may be at random: for example dots, circles, diamond shapes or any other shape: or the application may be in a discontinuous form: for example dots or any shapes not continuous: or in a continuous form: for example a grid, or lines vertical and/or horizontal, or even in the form of a signature, or in the form of a scribble: applied along the confronting surfaces adjacent to selected edges of a disposable hospital patient's gown.

If the cohesive-adhesive is applied to one confronting surface over a broader area than is required for attachment to the cohesive-adhesive on the other confronting surface, or if the cohesive-adhesive is applied to one confronting surface on more than one area, this will allow a choice of area of attachment and permit a variation of sizes and adjustments. If the cohesive-adhesive has high shear adhesive adherence and low peel adhesive adherence, this will allow the area of attachment to be opened and then be readhered at another area of attachment if desired.

The cohesive-adhesive may be applied by a platen applicator, by flexography, by silk screen applicator, by spray applicator, by spatula, by knife or by a roller applicator.

The roller applicator may have holes through which the cohesive-adhesive may be fed under pressure, by gravity, or by a spray.

Applications of the cohesive-adhesive so the areas of applications have spaces therein free of cohesive-adhesive will allow the moisture to seep out of the cohesive-adhesive into the adjoining material and will allow the cohesive-adhesive to dry more rapidly.

Cohesive adhesive may be applied so that the edge of the applications of cohesive adhesive is $\frac{1}{2}$ inch more or less from the edge of the disposable material to give one something to grab on to, thereby making it easier to separate the two confronting surfaces.

Manifestly, changes in the application of the cohesive-adhesive may be employed without departing from the spirit and scope of invention.

Immediately after the operation of obstetrical delivery, hospital gown 50 is placed on the front of the patient with the arms in the sleeves of the gown. Gown 50 need not be fastened at the patient's back until consciousness is regained permitting the patient to be rolled on their side or replaced in sitting position. However, the side edges may be secured beneath the patient's back simply by pressing the side edges 62 and 64 together. All this is accomplished with hospital gown 50, without providing conventional large flaps that get in way until fastened around patient's back.

Obviously, the cuts made in sheet of disposable material of the hospital gown 50 may be varied to provide a choice of models with various shapes of sleeves or flaps to cover shoulders. Similarly, the cuts in upper lateral section or inside of sheet may be varied to provide different shapes or length of flaps to wrap around patient and cover patient's back. Optionally, the sleeves of gown may be omitted, and shoulders and upper arms simply protected by widening shoulder straps creating

flap which will extend over shoulders and cover upper arm.

The sleeve may be positioned at the top of the arm to close under the arm — or the sleeve may be positioned under the arm to close at the top of the arm — or the sleeve may be positioned at one side of the arm to close at the other side of the arm.

To be "disposable" an examination gown should not cost more than the cost of laundering a cloth gown plus the cost of the gown divided by the number of times that it can be used. That rules out any gown that consists of more than a single sheet.

Even though the gown designed by the applicant is the first disposable hospital patient's gown that a patient can sleep in, the gown could still not be manufactured cheaply enough to be disposable except for a very important factor in its design. It is the first disposable gown that eliminates the expensive manufacturing process of assembling it into a gown.

The gown designed by the applicant is a sheet of disposable material cut to a pattern, cohesive-adhesive is applied to the confronting surfaces of the free edges at the top and sides of the sheet. The sheet is assembled into a gown by the patient, thereby eliminating the manufacturing process of assembling the sheet into a gown and enables the gown to be manufactured cheaply enough to dispose of after it has been worn once by the patient.

The gown described by the applicant is the first disposable hospital patient's gown that consists of a single sheet of disposable material without requiring separately attached belts, ties, panels of material or sleeves; the first disposable gown that may be applied to the front of the patient and then be closed at the shoulders to form sleeves without sitting the patient up or rolling the patient over; the first disposable gown that opens at the shoulders to allow the gown to be removed without interrupting the intravenous set up; the first disposable gown that is sealed together with an inexpensive cohesive-adhesive after it has been placed on the patient; the first disposable gown that may be opened for examination of the patient and then be resealed, in a manner that eliminates gaps in the back of the gown that open when the patient bends over.

Other gowns have described fasteners of ties, tapes, snaps and hooks.

Snaps, ties, tapes or hooks are not effective to close the free edges of a disposable hospital patient's gown because:

1. They expose the patient when the patient bends over.
2. They are too uncomfortable to sleep on.
3. They concentrate too much stress at those small areas of attachment of the gown, and since the disposable material does not have much internal strength, the snaps, ties, tapes, or hooks merely pull out of the gown, and cannot withstand the stresses and strains of a patient sleeping in the gown.

However, by closing the free edge of the disposable hospital patient's gown at the shoulders and back or front of the gown by means of a cohesive-adhesive, the stresses are diffused over the entire gown and the gown described by the applicant remains intact when it is slept in. There are no free edges at the back or front of the gown to become twisted and bunched up under the patient and then cause the gown to be torn apart.

Manifestly, changes in shape of office disposable gown 50, as well as alternative technique for attaching shoulder straps and panels of disposable material, may be employed without departing from the spirit and scope of invention. Similarly, revision of length and direction of cuts in hospital gown, as well as alteration of position or size of neck opening and sleeves or changes in the design of the pattern that the cohesive-adhesive is applied may be resorted to without departing from spirit and scope of invention.

I claim:

1. A disposable hospital patient's gown, comprising:
 - A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
 1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
 - B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said side edges;
 - C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other, said second means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said top edge portions.
2. A disposable hospital patient's gown, comprising:
 - A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
 1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
 - B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive applied along the confronting surface areas of said side edges, said areas having spaces therein free of said cohesive-adhesive; and
 - C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other, said second means consisting of a cohesive-adhesive applied along the confronting surface areas of said top edge portions said areas having spaces therein free of said cohesive-adhesive.
3. A disposable hospital patient's gown, comprising:

- A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
 1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
 - B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive applied along the confronting surface areas of said side edges, in dots; and
 - C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other, said second means consisting of a cohesive-adhesive applied along the confronting surface areas of said top edge portions in dots.
4. A disposable hospital patient's gown, comprising:
 - A. A sheet of material forming said gown and side edges, a bottom edge, and a top edge, said top edge of gown containing:
 1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
 - B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive applied along the confronting surface areas of said side edges, in a pattern; and
 - C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other, said second means consisting of a cohesive adhesive applied along the confronting surface areas of said top edge portions in a pattern.
 5. A disposable hospital patient's gown, comprising:
 - A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
 1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
 - B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive applied along the confronting surface areas of said side edges, in a random application; and

- C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other, said second means consisting of a cohesive-adhesive applied along the confronting surface areas of said top edge portions in a random application. 5
6. A disposable hospital patient's gown, comprising: 10
- A. A sheet of material forming said gown and edges, a bottom edge, and a top edge, said top edge of gown containing:
1. A medial neck opening, and,
 2. Two arm openings, formed each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other; 15
- B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive applied along the confronting surface areas of said said edges, in a discontinuous application; and 25
- C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other, said second means consisting of a cohesive-adhesive applied along the confronting surface areas of said top edge portions in a discontinuous application. 30 35
7. A disposable hospital patient's gown, comprising:
- A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing: 40
1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other; 45
- B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said side edges, said areas having spaces therein free of said cohesive-adhesive; and 50 55
- C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other, said second means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said top edge portions said areas having spaces therein free of said cohesive-adhesive. 60 65
8. A disposable hospital patient's gown, comprising:

- A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
- B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said side edges, in dots; and
- C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other, said second means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said top edge portions in dots.
9. A disposable hospital patient's gown, comprising:
- A. A sheet of material forming said gown and side edges, a bottom edge, and a top edge, said top edge of gown containing:
1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
- B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said side edges, in a pattern, and
- C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other, said second means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said top edge portions in a pattern.
10. A disposable hospital patient's gown, comprising:
- A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;

- B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said side edges, in a random application; and
- C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other, said second means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said top edge portions in a random application.
11. A disposable hospital patient's gown, comprising:
- A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
- B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said side edges, in a discontinuous application; and
- C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other, said second means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said top edge portions in a discontinuous application.
12. A disposable hospital patient's gown, comprising:
- A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
- B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive applied along the confronting surface areas of said side edges, said areas having spaces therein free of said cohesive-adhesive; and
- C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side

- edges, after said side edges are folded inwardly to engage each other.
13. A disposable hospital patient's gown, comprising:
- A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
- B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive applied along the confronting surface areas of said side edges, in dots; and
- C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other.
14. A disposable hospital patient's gown, comprising:
- A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
1. A medial neck opening, and
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
- B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive applied along the confronting surface areas of said side edges, in a pattern; and
- C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other.
15. A disposable hospital patient's gown, comprising:
- A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
1. A medial neck opening, and
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
- B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive applied along the confronting surface areas of said side edges, in a random application, and
- C. Second means for attaching, separating and re-attaching portions of said top edge intermediate

said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other.

16. A disposable hospital patient's gown, comprising:
 - A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
 1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
 - B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive applied along the confronting surface areas of said side edges, in a discontinuous application; and
 - C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other.
17. A disposable hospital patient's gown, comprising:
 - A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
 1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
 - B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said edges, said areas having spaces therein free of said cohesive-adhesive; and
 - C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other.
18. A disposable hospital patient's gown, comprising:
 - A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
 1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
 - B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive which may be peeled

apart but which is not readily sheared apart, applied along the confronting surface areas of said side edges, in dots; and

- C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other.
19. A disposable hospital patient's gown, comprising:
 - A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
 1. A medial neck opening, and
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
 - B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said side edges, in a pattern; and
 - C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other.
 20. A disposable hospital patient's gown, comprising:
 - A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
 1. A medial neck opening, and,
 2. Two arm openings formed each respectively, intermediate said side edges and said neck opening and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other;
 - B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said side edges, in a random application, and
 - C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other.
 21. A disposable hospital patient's gown, comprising:
 - A. A sheet of material forming said gown and having side edges, a bottom edge, and a top edge, said top edge of gown containing:
 1. A medial neck opening, and
 2. Two arm openings formed each respectively, intermediate said side edges and said neck openings, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of

the sheet, as the outermost side edges of said sheet are folded inwardly to engage each other:

- B. First means for attaching, separating and re-attaching said side edges, said first means consisting of a cohesive-adhesive which may be peeled apart but which is not readily sheared apart, applied along the confronting surface areas of said side edges, in a discontinuous application; and
- C. Second means for attaching, separating and re-attaching portions of said top edge intermediate said arm openings and said neck opening, and intermediate said arm openings and said side edges, after said side edges are folded inwardly to engage each other.

22. A Disposable hospital patient's Gown, comprising:

A sheet of material forming said gown having side edges, a bottom edge, and a top edge, said top edge of gown containing: 1) a medial neck opening; and 2) two arm openings, each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, and is then angled medially part of the way towards the midline of the sheet; cohesive-adhesive which may be peeled apart but which is not readily sheared apart is applied to selected confronting surfaces of the material, so that when the outermost side edges of said sheet are folded inwardly to engage each other, and the flaps that have been created lateral to the neck opening are folded downward and the cohesive-adhesive adjacent to the upper edge of the sheet between the arm openings and the neck opening is sealed to the cohesive-adhesive that is adjacent to the upper edge of the medial portion of the arm openings that extends towards the midline of the gown and to the cohesive-adhesive that extends lateral from the said medial portion of the arm openings toward the lateral edge of the sheet, sleeves are created that cover the shoulders and part of the upper arms, and extend lateral to the body of the gown.

23. A Disposable Hospital Patient's Gown, Comprising:

A sheet of material forming said gown having side edges, a bottom edge, and a top edge, said top edge of gown containing: 1) a medial neck opening; and 2) two arm openings, each respectively, intermediate said side edges and said neck opening, and each extending downwardly from the top edge of said sheet, part of the way toward the bottom of the sheet, and is then angled medially part of the way towards the midline of the sheet; cohesive-adhesive is applied to selected confronting surfaces of the material, applied so these areas have spaces therein without cohesive-adhesive; so that when the outermost side edges of said sheet are folded inwardly to engage each other, and the flaps that have been created lateral to the neck opening are folded downward and the cohesive-adhesive adjacent to the upper edge of the sheet between the arm open-

ings and the neck opening is sealed to the cohesive-adhesive that is adjacent to the upper edge of the medial portion of the arm openings that extends towards the midline of the gown and to the cohesive-adhesive that extends lateral from the said medial portion of the arm openings toward the lateral edge of the sheet, sleeves are created that cover the shoulders and part of the upper arms, and extend lateral to the body of the gown.

24. A Disposable Hospital Patient's Gown, comprising:

A sheet of material forming side gown having side edges, a bottom edge, and a top edge of gown containing:

- 1) A medial neck opening; and 2) two arm openings each respectively, intermediate said side edges and said neck opening and each extending downward and medially from the top edge of said sheet, part of the way toward the bottom and midline of the sheet; cohesive-adhesive which may be peeled apart but which is not readily sheared apart which penetrates into the materials is applied to selected confronting surfaces of the material, so that when the outermost side edges of said sheet are folded inwardly to engage each other, and the flaps that have been created lateral to the neck opening are folded downward and the cohesive-adhesive adjacent to the upper edge of the sheet (between the arm openings and the neck opening) is sealed to the cohesive-adhesive on the reverse surface of the sheet that extends superiorly and laterally from the end of the downward arm openings, sleeves are created that cover the shoulders and part of the upper arms.

25. A Disposable Hospital Patient's Gown, comprising:

A sheet of material forming said gown having side edges, a bottom edge, and a top edge of gown containing:

- 1) a medial neck opening; and 2) two arm openings each respectively, intermediate said side edges of said neck opening and each extending downward and medially from the top edge of said sheet, part of the way toward the bottom and midline of the sheet; cohesive-adhesive which may be peeled apart but which is not readily sheared apart is applied to selected confronting surfaces of the material, applied so these areas have spaces therein without cohesive-adhesive; so that when the outermost side edges of said sheet are folded inwardly to engage each other, and the flaps that have been created lateral to the neck opening are folded downward and the cohesive-adhesive adjacent to the upper edge of the sheet (between the arm openings and the neck opening) is sealed to the cohesive-adhesive on the reverse surface of the sheet that extends superiorly and laterally from the end of the downward arm openings, sleeves are created that cover the shoulders and part of the upper arms.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,745,587 Dated July 17, 1973
Inventor(s) Theodore Bradley

It is certified that error appears in the above-identified patent
and that said Letters Patent are hereby corrected as shown below:

The term of this patent subsequent to
April 13, 1988, has been disclaimed.

Signed and sealed this 15th day of April 1975.

(SEAL)
Attest:

RUTH C. MASON
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents
and Trademarks